



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

649.4701
Job Sheet 168571



Part No: 649.4701

Job Qty: 1 ea

Part Name: AW119 Cable Cutter System



Part Weight: 0 lbs

Status: Scheduled

Priority: High

Job Created: 11/17/17

Job Tracking No:

Due Date: 11/30/17

Created By: Mario Poulin

Type: SOLD

Description:

Customer: Agustawestland Philadelphia Corp (CAGUS02)

3050 Red Lion Road Philadelphia, PA, 19114 USA ph:(215) 281-1400 fx:(215) 281-0447.

Note: IPP REV:A 12.11.05 NEW ISSUE DD VERF:JLM IPP REV:B AS PER ECR 12-54 13-07-09 JLM VERIFIED
BY:DD IPP REV:C 16.08.11 AS PER DWG REV.C DD VERF:JLM IPP REV:D 17.11.08 AS PER DWG
REV.E2 DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		11/30/17	0.00	0.00	Start Up Stores/Pkg-1	SD	2017-12-14 JSL
100	Packaging	1 pcs		11/30/17	0.00	0.00	Packaging1		
110	QC	1 pcs		11/30/17	0.00	0.00	QC4		
120	Packaging	1 pcs		11/30/17	0.00	0.00	Packaging3		
130	QC21-FG	1 Ea		11/30/17	0.00	0.00	QC21	Fg102	solid

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	600.1012 S000659	1 ✓	23	0	0
	601.2045 S021726	1 ✓	26	0	0
24p.02/2018	601.3493 S021725	2 ✓	18	0	0
	646.9910 S021724	4 ✓	97	0	0
24p.06/2019	647.9014 S021723	8 ✓	12	0	0
	649.4811 S021722	1 ✓	22	0	0
2-X S02029	649.4812 S021721	3 ✓	13	0	0
	649.4813 S004592	4 ✓	10	0	0
PM12/6/15.3X2	649.4814 S021718	2 ✓	10	0	0
	649.4815 S021717	3 ✓	20	0	0
S021708	649.4816 S021715	3 ✓	28	0	0
	649.4817 F164321	4 ✓	28	0	0
68-6	649.4818 S021710	1 ✓	10	0	0
	649.4819 S021709	2 ✓	20	0	0
QA	649.4820 F124240	1 ✓	20	0	0
	649.4901 S021592	1 ✓	10	0	0
S021700	649.4902 S021592	1 ✓	12	0	0
	649.5011 S021707	1 ✓	12	0	0
S021700	649.5012 S021705	2 ✓	14	0	0
	649.5013 S021704	2 ✓	16	0	0
S021700	649.5014	1 ✓	8	0	0
	649.5110 S021703	2 ✓	16	0	0
S021700	649.5111 S000659	1 ✓	10	0	0
	649.5112 S000659	1 ✓	12	0	0
S021700	649.5210 F149615	2 ✓	15	0	0

68-6 - 649.5010 S021750 ✓

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐		

Date : _____	Step #: _____	QTY Effective : _____	MRB (QSI042) Approval ☐
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Description Work Order Dr _____	Disposition _____
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DART
AEROSPACE
S026831

AW119 Cable Cutter System

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Completed By _____

 Lead hand / Supervisor
Approval Verification

 QC / QA Coordinator
Approval

Root Cause			
Environment ☐	No Re-verification ☐	P	
Design ☐	Operator ☐	E	
Doc/Data ☐	Offset/Setup ☐	C	
Equip/Tooling ☐	Supplier ☐	C	
Handling/Pre ☐	Training ☐		
Material ☐	Use for Testing ☐	C	
Internal Transport ☐	Poor Information ☐		
Tribal Knowledge ☐	Rushing ☐	Crushing ☐	Countersink ☐
LOA ☐	Product Improvement ☐	Heat Treat ☐	Cut Too Short ☐
Substation ☐	Process Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐
Past Expiry Date ☐	Manufacturing Process ☐	Marks/Chatter ☐	Drill Holes ☐
Misidentified ☐	Past Due ☐	OTHER : _____	

PART NO: 649.4701
Revision:
Operation: Start up Operation
Change No:

Mfg Date: 12/22/17
Job No: 168571

☐ Positioned Wrong
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Drawing
☐ Finish
☐ Misread
☐ Turning Sequence

- 649.5211 5021694 1 ✓
 - 649.5212 5021693 1 ✓
 - 649.5213 5021692 2 ✓
 - 649.5214 5021691 1 ✓
 - 91420A230 5021368 13 ✓
 - AN3C12A 5021365 8 ✓
 - AN4C5A 5021357 4 ✓
 - AN4C7A 5021360 2 ✓
 - AN970-3 5021354 2 ✓
 - CR3213-4-05 5021352 24 ✓
 - CR3213-5-03 5021341 8 ✓
 - MS20426AD3-4 5021340 32 ✓
 - MS20426AD3-5 5021248 6 ✓
 - MS20426AD4-4 5021247 4 ✓
 - MS20470AD4-3 5021245 23 ✓
 - MS20470AD5-11 5021244 2 ✓
 - MS21042-4 5021242 9 ✓
 - MS21042L08 5021241 22 ✓
 - MS21042L3 5021240 4 ✓
 - MS21042L4 5021237 3 ✓
 - MS21059-3 5021236 20 ✓
 - MS24694-C57 5019607 2 ✓
 - MS24694-S58 5019584 2 ✓
 - MS27039-08-13 5019583 12 ✓
 - MS27039-08-19 5019580 26 ✓
 - MS27039-08-24 5019578 3 ✓
 - MS27039-1-08 5019576 4 ✓
 - MS27039-1-10 5006989 6 ✓
 - MS27039-1-13 5019571 13 ✓
 - MS27039-1-14 5017187 4 ✓
 - MS27039-1-18 5017188 4 ✓
 - MS27039-1-25 5017187 2 ✓
 - NAS1097AD-4-3 5017186 2 ✓
 - NAS1149CN832R 5017185 48 ✓
 - NAS1149F0332P 5017058 53 ✓
 - NAS1149F0363P 5017057 16 ✓
 - NAS1149F0432P 5017055 8 ✓
 - NAS1149FN832P 5017053 23 ✓
 - NAS1832-3-7 5017052 8 ✓
 - NAS1832-4-7 5017051 2 ✓
 - NAS1834C3-300 5017050 2 ✓
 - NAS620C-10L 5017049 8 ✓
 - DAS 5016885 16 ✓
 - 5019476 4 ✓

15 0 0
 5 0 0
 13 0 0
 5 0 0
 61 0 0
 148 0 0
 28 0 0
 111 0 0
 237 0 0
 262 0 0
 100 0 0
 6,791 0 0
 8,744 0 0
 2,072 0 0
 1,275 0 0
 1,008 0 0
 0 0 0
 1,001 0 0
 1,093 0 0
 1,202 0 0
 406 0 0
 74 0 0
 44 0 0
 41 0 0
 161 0 0
 822 0 0
 115 0 0
 432 0 0
 483 0 0
 463 0 0
 558 0 0
 1,441 0 0
 108 0 0
 4,335 0 0
 225 0 0
 2,494 0 0
 153 0 0
 887 0 0
 3,740 0 0
 222 0 0
 40 0 0
 158 0 0
 205 0 0

DAS 10 9-89 NAS93038 5019476
 Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
NCR DS149-043									
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

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NOTES:

- 1 APPLY F/N 62 TO FAYING SURFACES.
- 2 AFTER INSTALLATION, APPLY F/N 63 A/R TO FILL GAPS AND FILLET EDGES
- 3 MATCH DRILL HOLE ON TAB OF F/N 13 TO FIT RIVET F/N 45
- 4 REQUIRED QTY
F/N 12: 1
F/N 15: 2
F/N 17: 1
INSTALL EXTRA AS NEEDED
- 5 INSTALL ONLY IF REQUIRED

3/B7 DETAIL B

5/B6 DETAIL D

4/B7 DETAIL C

DETAIL A

UNINCORPORATED ECN(S)

05856, 05875,

4	77	601.4085	RIVET	NAS9303B-5-03	
4	76	601.3322	RIVET	MS20426AD4	
16	75	601.4084	RIVNUT	NAS1330508B106	
2	74	649.4819	SHIM		
1	73	649.4818	SHIM		
32	72	601.1983	NUTPLATE RIVET	MS20426AD3	
20	71	601.4083	NUTPLATE	MS2106YLO8	
48	70	601.1869	WASHER	NAS1149CN832P	
12	69	601.2988	SCREW	MS27039-0813	
20	68	601.2765	SCREW	MS27039-0819	
4	67	649.4817	SHIM		Δ
16	66	601.3151	WASHER	NAS1149P0363P	
	65		DELETED		
	64		DELETED		
1	63	600.1012	SEALANT	PR-1425 CLAS 8	
1	62	601.2045	RTV	LOCTITE 598	Δ
8	61	601.2381	WASHER	NAS620C-10L	
8	60	601.2638	WASHER	NAS1149F0432P	
18	59	601.2764	WASHER	NAS1149FNB32P	
53	58	601.1607	WASHER	NAS1149P0332P	
2	57	601.3470	WASHER	AN970-3	
6	56	601.1365	SCREW	MS27039-1-10	
4	55	601.1621	SCREW	MS27039-1-08	
2	54	601.3289	SCREW	MS27039-1-25	
6	53	601.2765	SCREW	MS27039-0819	
13	52	601.3190	SCREW	MS27039-1-13	
3	51	601.3124	SCREW	MS27039-0824	
4	50	601.1622	SCREW	MS27039-1-14	
4	49	601.2910	SCREW	MS27039-1-18	
1	48	601.3252	SCREW	MS2469558	
	47		DELETED		
2	46	601.3146	SCREW	MS24694C57	
4701	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
N/C	LAST PRODUCTION REVISION P12		
A	INITIAL RELEASE	01-28-12	P. BRAVO
B	INCORPORATED ECN 03444 03489	04-17-12	P. BRAVO
C	INCORPORATED ECN 03527	05-29-12	P. BRAVO
D	INCORPORATED ECN 03733, 03885, 04884, 05303	07-26-14	P. BRAVO
E	INCORPORATED ECN 06721	04-04-17	P. BRAVO
F	INCORPORATED ECN 06816	08-02-17	P. BRAVO

2	45	601.1125	RIVET	MS20470AD5-11	
	45		DELETED		
	43		DELETED		
23	42	601.1773	RIVET	MS20470AD4-3	
12	41	601.1616	RIVET	MS20426AD3-5	
6	40	601.1900	NUTPLATE	MS21059-3	
1	39	601.3209	LOCKNUT	MS21042L4	
25	38	601.1624	LOCKNUT	MS21042L3	
9	37	601.1541	LOCKNUT	MS21042L08	
2	36	601.3008	INSERT	NAS1834C-300	
2	35	601.3468	INSERT	NAS1832-4-7	
8	34	601.3459	INSERT	NAS1832-3-7	
	33		DELETED		
13	32	601.4061	SCREW	91420A230	DR-945
	31		DELETED		
24	30	601.1183	CHERRY RIVET	CR3213-4-05	
	29		DELETED		
8	28	601.2020	CHERRY RIVET	CR3213-5-03	
	27		DELETED		
2	26	601.2669	BOLT	AN4C7A	
4	25	601.3555	BOLT	AN4C5A	
8	24	601.0788	BOLT	AN4C12A	
1	23	649.5112	WIPER DEFLECTOR		
1	22	649.5111	WIPER DEFLECTOR		
2	21	649.5110	WIPER DEFLECTOR		
8	20	647.9014	STRUT BRACKET		
4	19	646.9910	STRUT		
3	18	649.4815	SHIM		
3	17	649.4812	SHIM		Δ
2	16	649.5213	DOUBLER		
4	15	649.4813	SHIM		Δ
1	14	649.5211	SHIM		
2	13	601.3493	QUICK RELEASE PIN		Δ
3	12	649.4816	DOUBLER		Δ
2	11	649.4814	DOUBLER		
2	10	649.5210	DOUBLER		
1	9	649.5011	DEFLECTOR		
2	8	649.5013	DEFLECTOR		
2	7	649.5012	DEFLECTOR		
1	6	649.4811	CLIP		
1	5	649.5212	BRACKET		
1	4	649.5214	BRACKET		
1	3	649.5010	DEFLECTOR		
1	2	649.4901	UPPER CUTTER ASSY		
1	1	649.4902	LOWER CUTTER ASSY		
		649.4701	A119 CABLE CUTTERS KIT		
4701	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.

QTY

NEXT ASSY (S)

PARTS LIST

ORIGINAL DATE: 04-11-2012
DRAWN BY: S. COCHRAN
CHECKED BY: P. BRAVO
DRAWING APPROVAL: P. BRAVO
DATE: 04-11-2012
CONTRACT NO.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ±.010
3 PLACE DECIMALS ±.005
ANGLES ±.5°

DART
AEROSPACE
APICAL INDUSTRIES INC.
DBA DART AEROSPACE
3030 ENTERPRISE CT.,
SUITE A
VISTA, CA 92081
(760)-724-5300
A119 CABLE CUTTERS KIT
REV E
SCALE NONE SHEET 1 OF 5



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05856

SHEET 1 OF 2

DWG NO. 649.4700

REV: E

PREPARED BY

J. BECKER

DATE: 09/06/17

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: A119 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

QC

EFF.

NEXT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: REVISED P/N'S.

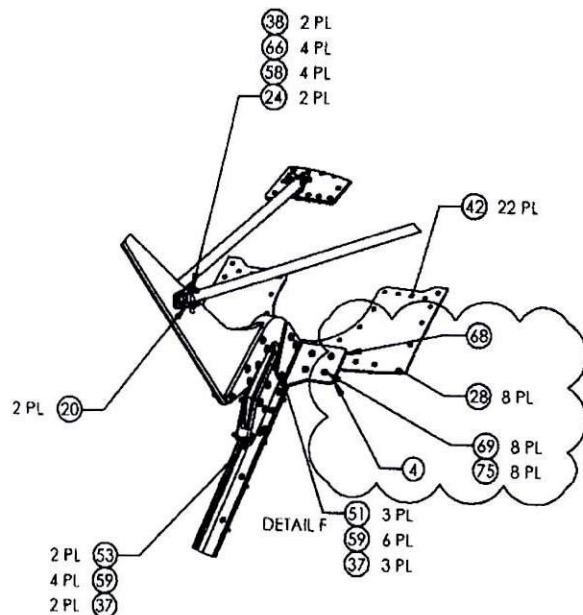
ECR:

N/A

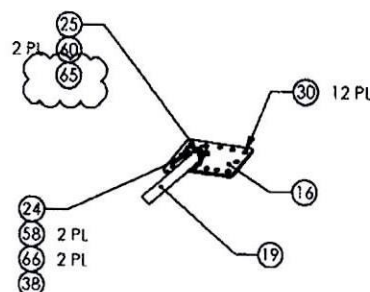
ACTION ITEM:

1. SEND UPDATED DRAWINGS TO HAWKESBURY

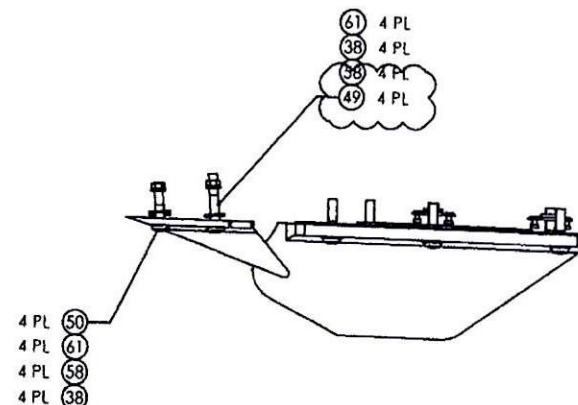
SHEET 2 ZONE C7 IS:



SHEET 2 ZONE A1 IS:



SHEET 5 ZONE C7 IS:



76	R	600.0846	4		RIVET	MS20426AD4-4	
72	R	601.1710	32		NUTPLATE RIVET	MS20426AD3-4	
69	R	601.2988	12		SCREW	MS27039-0813	
68	R	649.4820	1		SHIM		
65	R	601.1887	3		NUT	MS21042-4	
53	R	601.2765	26		SCREW	MS27039-0819	
48	R	601.3252	2		SCREW	MS2469S58	
41	R	601.1616	6		RIVET	MS20426AD3-5	
40	R	601.1900	3		NUTPLATE	MS21059-3	
38	R	601.1624	22		LOCKNUT	MS21042L3	
F/N	TC	PART NUMBER	4701		DESCRIPTION	MATERIAL	SPECIFICATION
			QTY				

DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☒ INSTALL INSTRUCTIONS ☒ ICA ☐ FMS ☒ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05875

SHEET 1 OF 1

DWG NO. 649.4700

REV: E

PREPARED
BY

A. QUAN

DATE: 10/24/17

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: A119 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

EFF.

NEXT ORDER

REASON: REVISED P/N'S.

ECR:

17-126

ACTION ITEM:

1. SEND UPDATED
DRAWINGS TO
HAWKESBURY

REFERENCE ONLY

36	R	601.3008	2		INSERT	NAS1834C3-300	
F/N	TC	PART NUMBER	4701		DESCRIPTION	MATERIAL	SPECIFICATION
			QTY				

DOCUMENTS EFFECTED: ☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM

CHANGE CATEGORY: ☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED: ☐ YES ☒ NO